Development of Hydromodification Control Requirements for New and Redevelopment:

The Central Coast Joint Effort

February, 2012

Central Coast Water Board

Today's Workshop

Meeting Purpose:

Discuss Joint Effort progress in the development of stormwater control requirements for new and redevelopment projects

Agenda:

- Project background
- Process for developing Numeric Criteria
  (Watershed Management Zones, Strategies, etc.)
- Applicability Thresholds and Alternative Compliance

Joint Effort Background

Post-construction stormwater requirements protect and improve downstream receiving waters

Joint Effort Background

The Water Board proposed the Joint Effort as a regional approach to develop stormwater control requirements

The Joint Effort was initiated in 2009 and has participation from all the Region's MS4 municipalities

The requirements are planned to go into effect January 2013

Joint Effort Background

Project Assumptions:

- Landscapes across the Central Coast are not the same and a “one-size-fits-all” approach is not appropriate
- Conventional stormwater management approaches are not adequate to protect/improve receiving waters
- Hydromodification control should focus on the protection/improvement of *watershed processes*
- Post-construction requirements for hydromodification control must be technically feasible and reasonable (i.e., cost-effective)
- Water quality requirements must be integrated to create the final new/redevelopment requirements

Watershed Management Zones, Strategies, and Identification of Numeric Criteria

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1. TYPES OF PHYSICAL LANDSCAPE FEATURES (GEOLOGY, SLOPE)

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Watershed Management Zones, Strategies, and Identification of Numeric Criteria

2. TYPES OF RECEIVING WATERS

(WHERE DOES RUNOFF GO?)

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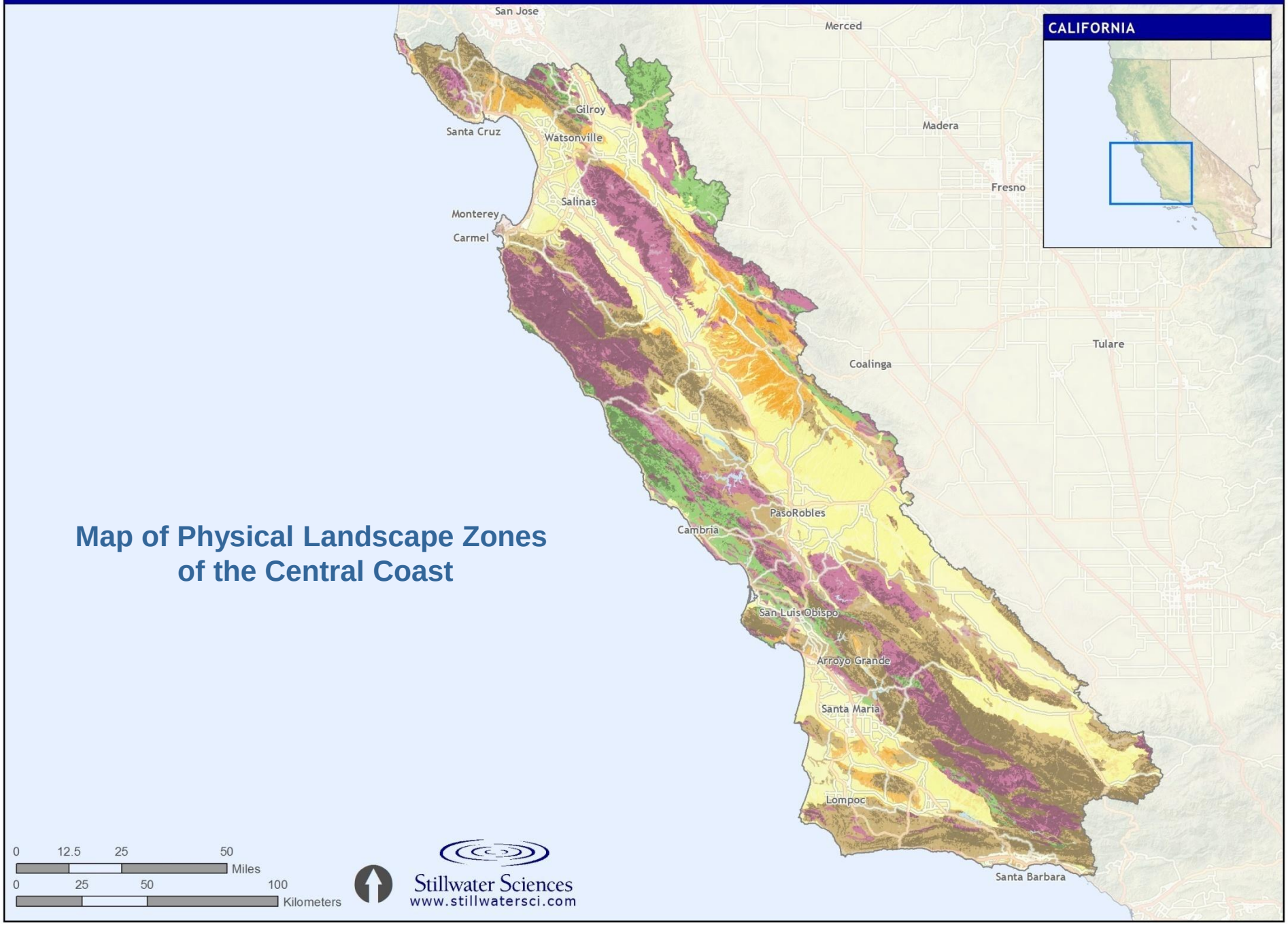
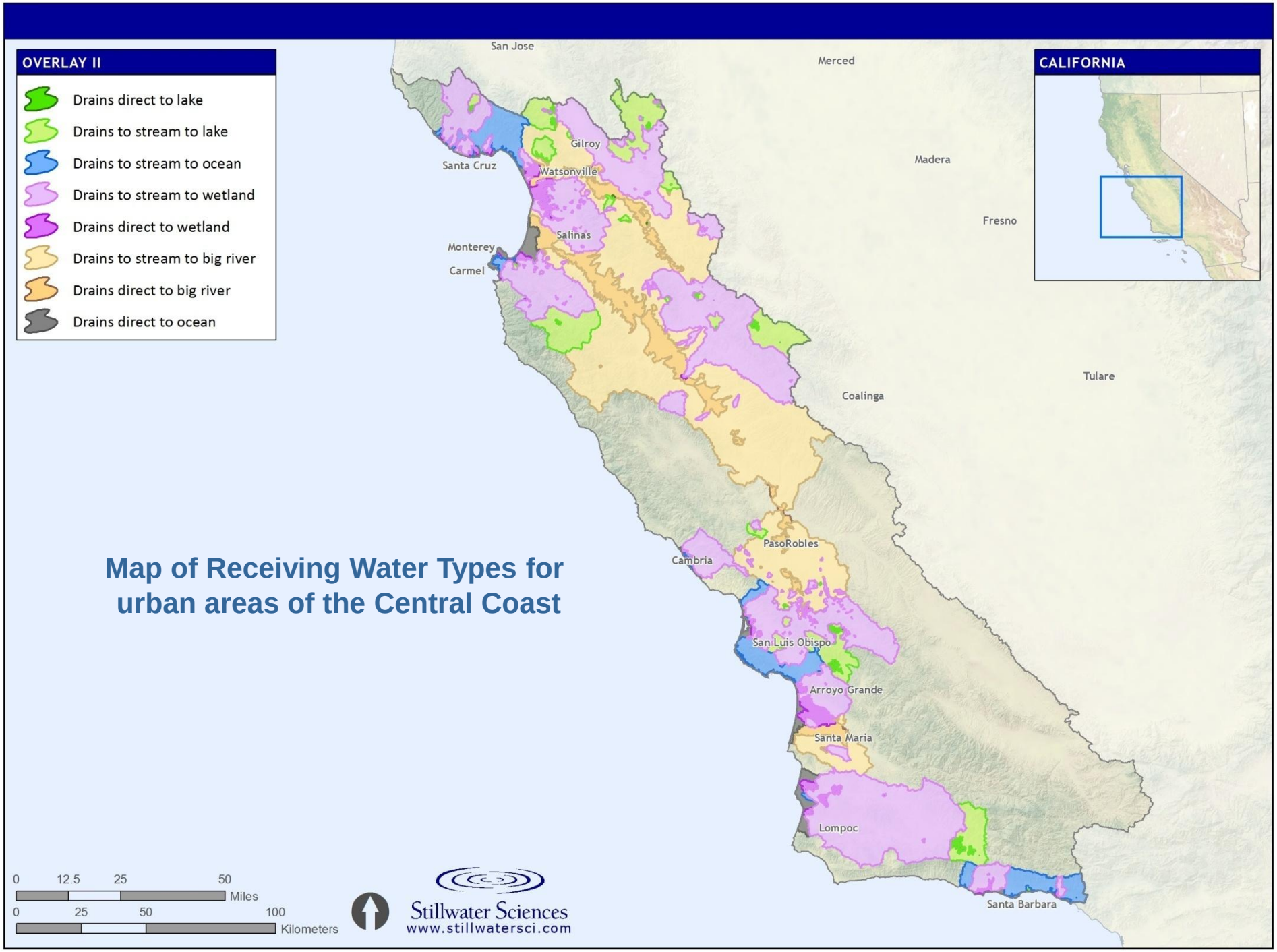
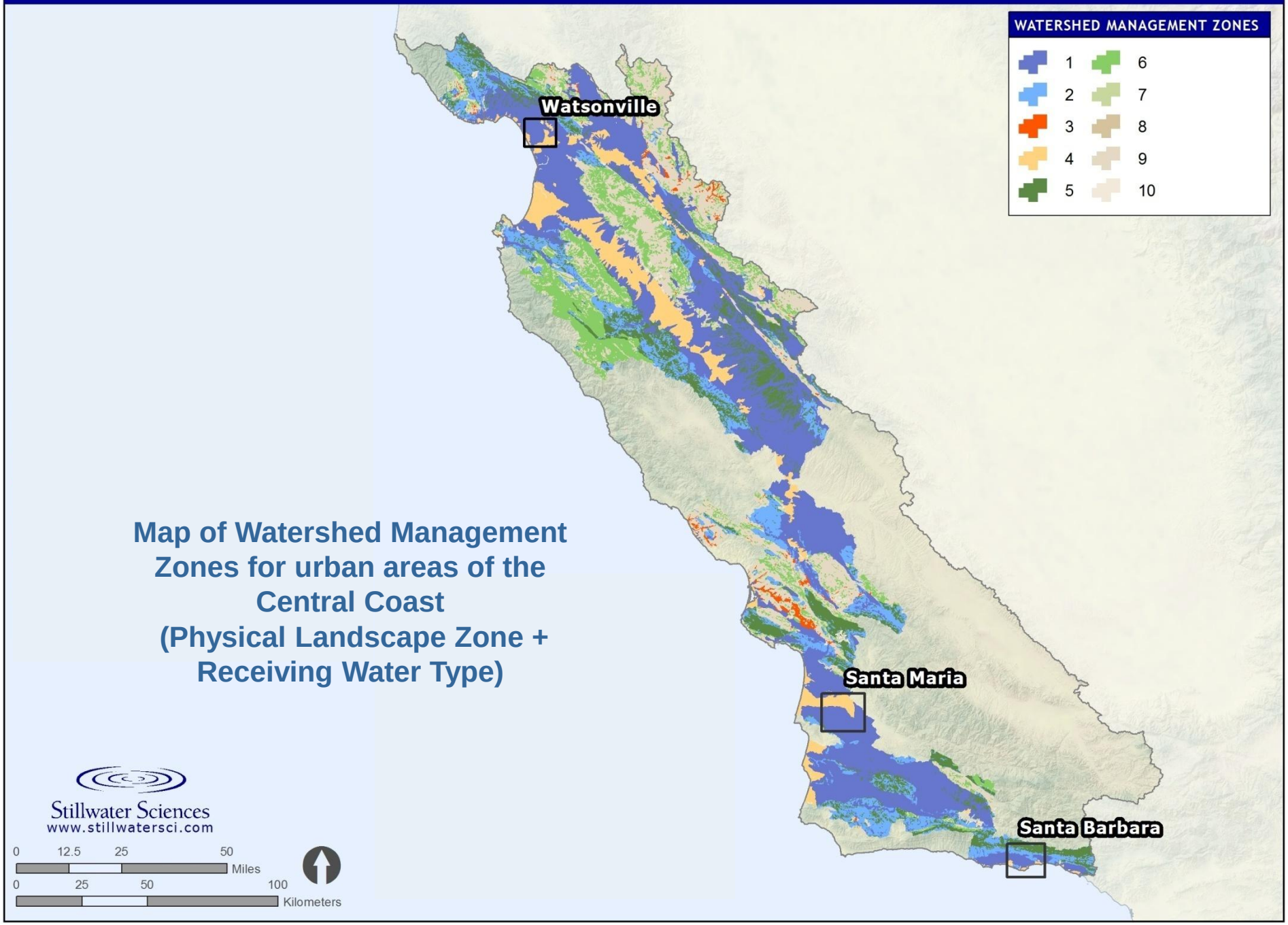
(WHERE DOES RUNOFF GO?)

Watershed Management Zones, Strategies, and Identification of Numeric Criteria

Map of Physical Landscape Zones of the Central Coast




OVERLAY II
Drains direct to lake
Drains to stream to lake
Drains to stream to ocean
Drains to stream to wetland
Drains direct to wetland
Drains to stream to big river
Drains direct to big river
Drains direct to ocean
CALIFORNIA
San Jose
Merced
Madera
Fresno
Tulare
Gilroy
Santa Cruz
Watsonville
Salinas
Monterey
Carmel
Coalinga
PasoRobles
Cambria
San Luis Obispo
Arroyo Grande
Santa Maria
Lompoc
Santa Barbara
Map of Receiving Water Types for urban areas of the Central Coast
0 12.5 25 50 Miles
0 25 50 100 Kilometers
Stillwater Sciences
www.stillwatersci.com


WATERSHED MANAGEMENT ZONES
1
2
3
4
5
6
7
8
9
10
Watsonville
Santa Maria
Santa Barbara
Map of Watershed Management Zones for urban areas of the Central Coast (Physical Landscape Zone + Receiving Water Type)
Stillwater Sciences
www.stillwatersci.com
0 12.5 25 50 Miles
0 25 50 100 Kilometers

Watershed Management Zones, Strategies, and Identification of Numeric Criteria

What do we mean by “stormwater management strategies”?

- Flow control (reduces overland flow, increases infiltration)
- Water-quality improvement/protection
- Preservation of natural features, including the influx of sediment and organic material

Watershed Management Zones, Strategies, and Identification of Numeric Criteria

KEY POINTS:

- Watershed processes need protection *where* they occur; thus, most mitigation will typically occur on-site.

- "Runoff" is not the only process of concern for maintaining healthy watersheds; thus, "flow control" is not the only management strategy that will typically be needed.

- Conversely, not every site needs every process protected; not every receiving water needs the same type or degree of protection.

Watershed Management Zones, Strategies, and Identification of Numeric Criteria

Stormwater management strategies should be tailored to meet the requirements of individual Watershed Management Zones.

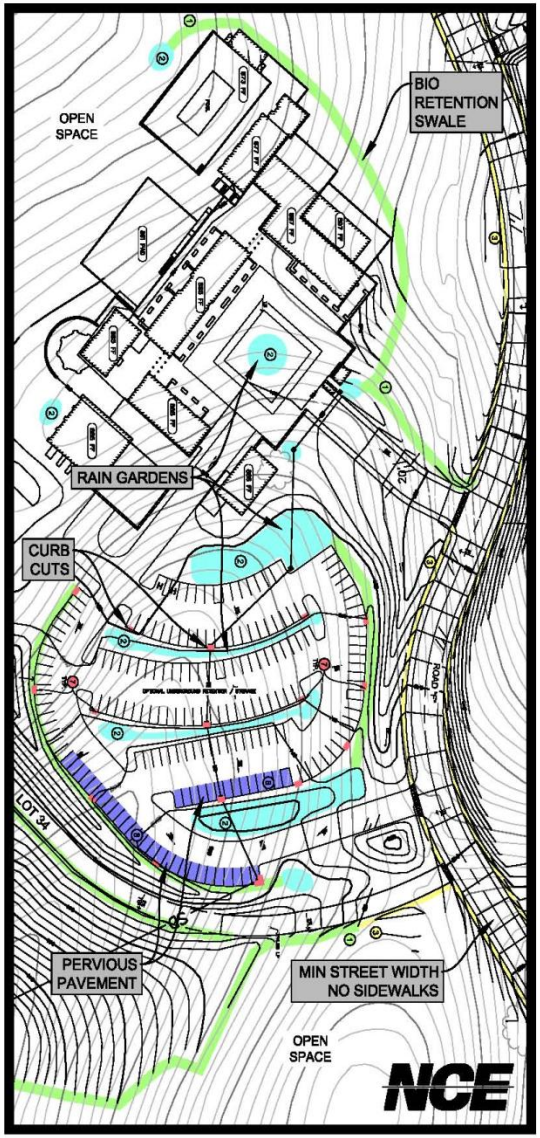
For example:

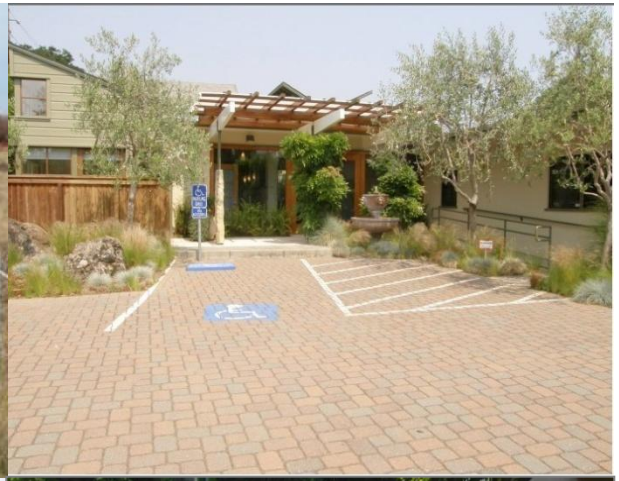
- Areas that drain to small streams need to maintain the watershed processes that regulate flows, maintain water quality, and ensure continued delivery of sediment and organics.

- Areas that support groundwater aquifers need to maintain high rates of infiltration.

- Areas that drain directly to the marine nearshore need to maintain only those processes that support high water quality and delivery of beach sediment.

Watershed Management Zones, Strategies, and Identification of Numeric Criteria





Watershed Management Zones, Strategies, and Identification of Numeric Criteria

Management Strategies

+

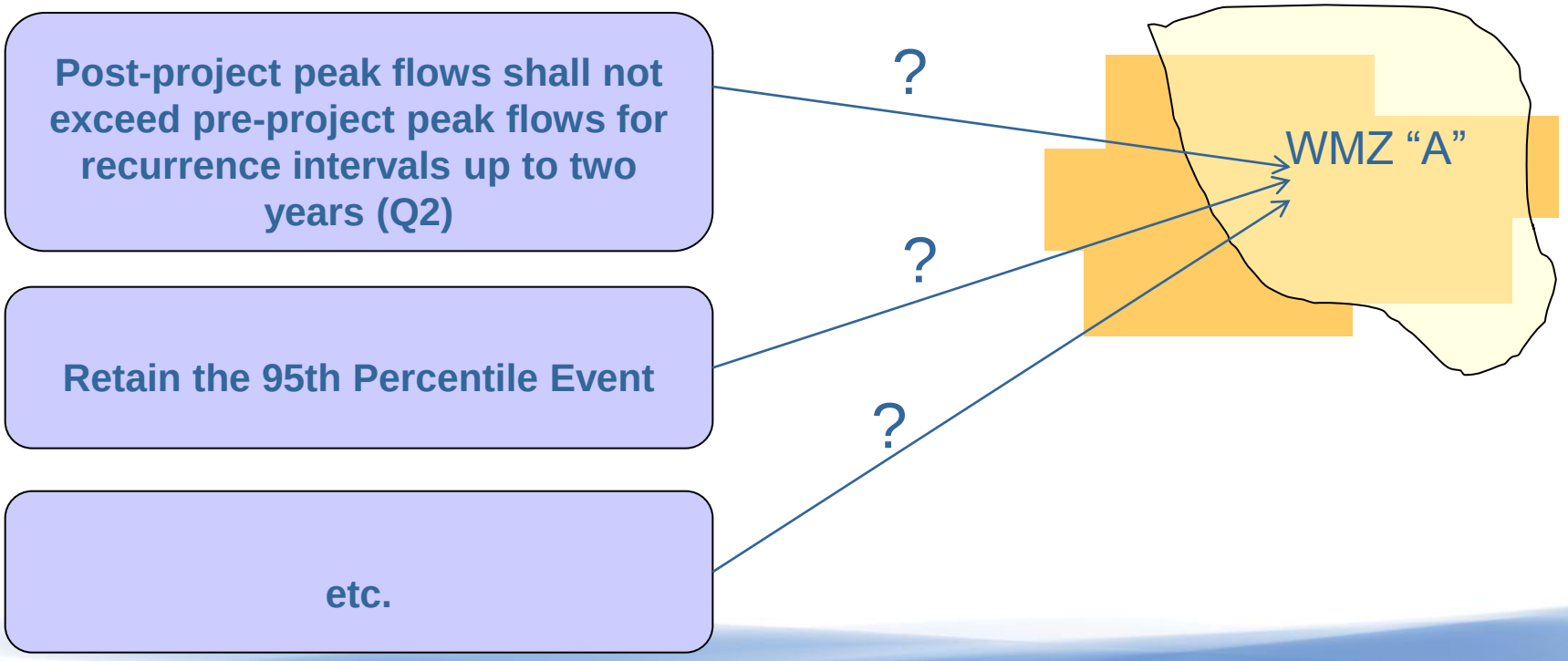
Numeric Criteria

=

Performance-based Requirements

Watershed Management Zones, Strategies, and Identification of Numeric Criteria

Evaluation of Existing Numeric Criteria to Determine Suitability in Addressing Central Coast Watershed Management Strategies



Watershed Management Zones, Strategies and Numeric Criteria: Summary

Physical Landscape Zone
+
Receiving Water Type
=
WATERSHED MANAGEMENT ZONES

SITE-APPROPRIATE HYDROMODIFICATION CONTROL REQUIREMENTS

The WMZs identify:

- ✓Key watershed processes to protect
- ✓Necessary management strategies to achieve protection

The WMZs inform:

- ✓The translation of management strategies into numeric performance targets

Discussion: Part 1

- Watershed Management Zones
- Management Strategies
- Numeric Criteria

Applicability Thresholds

Applicability Thresholds

Components of Applicability Thresholds

- Parameter used to trigger requirements

  (e.g., new/replaced impervious surface)

- Exemptions

- Type of requirement at each threshold

  (e.g., water quality and flow control)

Alternative Compliance

A programmatic approach
undertaken by a municipality
to provide an alternative
to the uniform application
of Joint Effort numeric criteria
to all projects in their jurisdiction.

Alternative Compliance

Opportunities

- Flexibility to align with broader development objectives
- Ability to meet compliance

Challenges

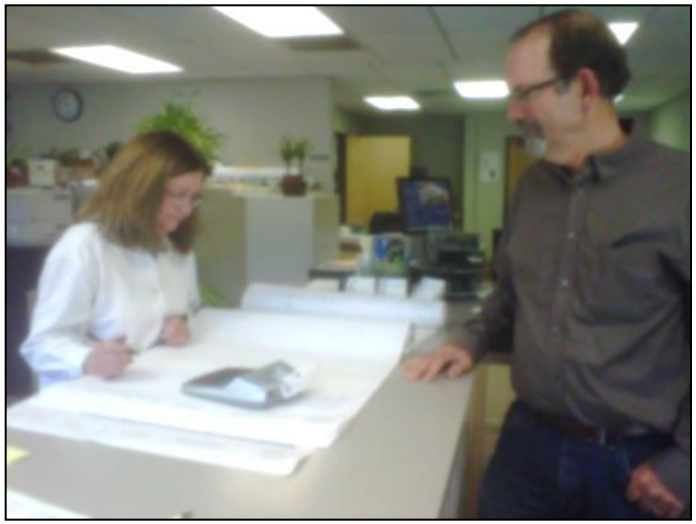
- Legal framework (location, schedule)
- Equivalency with Joint Effort numeric criteria
- Long term ownership and responsibility
- Identification of suitable mitigation sites

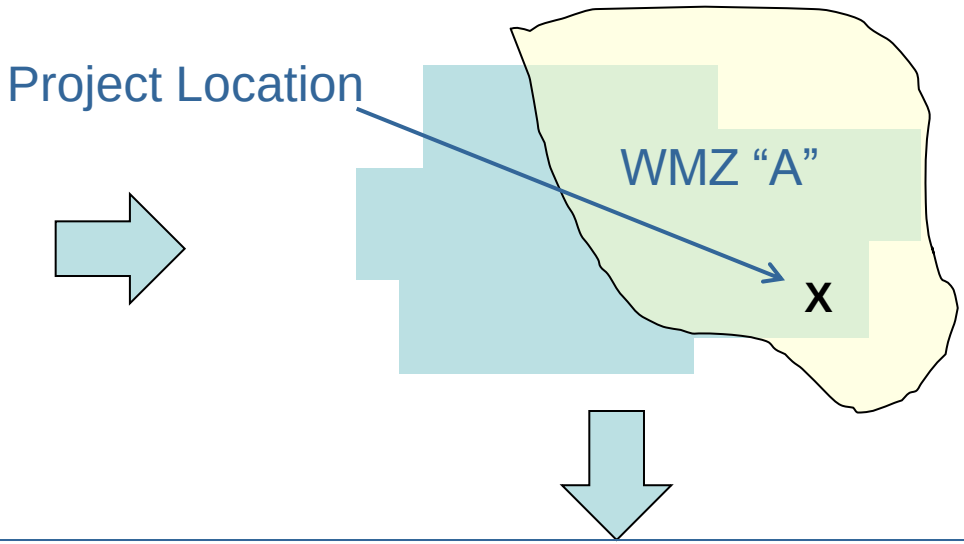
Alternative Compliance is new territory and most likely a Pilot Project for a subset of projects.

Discussion: Part 2

- Applicability Thresholds
- Alternative Compliance

Putting it all Together: understanding project requirements





Post Construction Requirements for WMZ “A”

Amount of new/replaced impervious surface:

(small) ft^2 then _____(insert numeric requirement)

(large) ft^2 then _____(insert numeric requirement)

Schedule

Please see schedule handout

Thank You


Region 1
Region 2
Region 3
Region 4
Region 5
Region 6
Region 7
Region 8
Region 9
Gilroy
Watsonville
Salinas
Monterey
Soledad
Greenfield
Paso Robles
Atascadero
San Luis Obispo
Arroyo Grande
Nipomo
Santa Maria
Vandenberg AFB
Lompoc
Solvang
Santa Barbara
Goleta